



CO. 1
ORIGINAL
1

SEQUENCE LISTING

(1) GENERAL INFORMATION:

- (i) APPLICANT: Kavanaugh, William M.
Williams, Lewis T.
- (ii) TITLE OF INVENTION: Binding Sites for Phosphotyrosine
Binding Domains
- (iii) NUMBER OF SEQUENCES. 74
- (iv) CORRESPONDENCE ADDRESS:
 - (A) ADDRESSEE: Townsend and Townsend and Crew LLP
 - (B) STREET: Two Embarcadero Center, 8th Floor
 - (C) CITY: San Francisco
 - (D) STATE: California
 - (E) COUNTRY: USA
 - (F) ZIP: 94111-3834
- (v) COMPUTER READABLE FORM:
 - (A) MEDIUM TYPE: Floppy disk
 - (B) COMPUTER: IBM PC compatible
 - (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 - (D) SOFTWARE: PatentIn Release #1.0, Version #1.25
- (vi) CURRENT APPLICATION DATA:
 - (A) APPLICATION NUMBER: US 09/894,967
 - (B) FILING DATE: 27-JUN-2001
 - (C) CLASSIFICATION:
- (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER: US 08/423,646
 - (B) FILING DATE: 14-APR-1995
- (viii) ATTORNEY/AGENT INFORMATION:
 - (A) NAME: Serafini, Andrew T.
 - (B) REGISTRATION NUMBER: 41,303
 - (C) REFERENCE/DOCKET NUMBER: 2307K-059110
- (ix) TELECOMMUNICATION INFORMATION:
 - (A) TELEPHONE: 415-326-2400
 - (B) TELEFAX: 415-326-2422

(2) INFORMATION FOR SEQ ID NO:1:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 5 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (ix) FEATURE:
 - (A) NAME/KEY: Region
 - (B) LOCATION: one-of(2)

(D) OTHER INFORMATION: /note= "Xaa is Leu or Ala."

(ix) FEATURE:

(A) NAME/KEY: Region

(B) LOCATION: one-of(3)

(D) OTHER INFORMATION: /note= "Xaa is Tyr, phosphotyrosine or analogs thereof, Glu, Thr, Asp, Gln, Ala or Phe."

(ix) FEATURE:

(A) NAME/KEY: Region

(B) LOCATION: one-of(4)

(D) OTHER INFORMATION: /note= "Xaa is Tyr, phosphotyrosine or analogs thereof."

(ix) FEATURE:

(A) NAME/KEY: Region

(B) LOCATION: one-of(5)

(D) OTHER INFORMATION: /note= "Xaa is Trp, Leu, Ser, Phe or Gln."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

Asn Xaa Xaa Xaa Xaa

1

5

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 6 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Region

(B) LOCATION: one-of(1)

(D) OTHER INFORMATION: /note= "Xaa is Asp, Ser, Glu or Ala."

(ix) FEATURE:

(A) NAME/KEY: Region

(B) LOCATION: one-of(3)

(D) OTHER INFORMATION: /note= "Xaa is Leu or Ala."

(ix) FEATURE:

(A) NAME/KEY: Region

(B) LOCATION: one-of(4)

(D) OTHER INFORMATION: /note= "Xaa is Tyr, phosphotyrosine or analogs thereof, Glu, Thr, Asp, Gln, Ala or Phe."

(ix) FEATURE:

(A) NAME/KEY: Region

(B) LOCATION: one-of(5)

(D) OTHER INFORMATION: /note= "Xaa is Tyr, phosphotyrosine or analogs thereof."

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(6)
- (D) OTHER INFORMATION: /note= "Xaa is Trp, Leu, Ser, Phe or Gln."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

Xaa Asn Xaa Xaa Xaa Xaa
 1 5

(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 6 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(3)
- (D) OTHER INFORMATION: /note= "Xaa is Leu or Ala."

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(4)
- (D) OTHER INFORMATION: /note= "Xaa is Tyr, phosphotyrosine or analogs thereof, Glu, Thr, Asp, Gln, Ala or Phe."

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(5)
- (D) OTHER INFORMATION: /note= "Xaa is Tyr, phosphotyrosine or analogs thereof."

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(6)
- (D) OTHER INFORMATION: /note= "Xaa is Trp or Phe."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

Asp Asn Xaa Xaa Xaa Xaa
 1 5

(2) INFORMATION FOR SEQ ID NO:4:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 6 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(3)
- (D) OTHER INFORMATION: /note= "Xaa is Leu or Ala."

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(4)
- (D) OTHER INFORMATION: /note= "Xaa is Tyr, phosphotyrosine or analogs thereof, Glu, Thr, Asp, Gln, Ala or Phe."

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(5)
- (D) OTHER INFORMATION: /note= "Xaa is Tyr, phosphotyrosine or analogs thereof."

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(6)
- (D) OTHER INFORMATION: /note= "Xaa is Trp or Phe."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

Glu Asn Xaa Xaa Xaa Xaa
1 5

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 12 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(7)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

Ala Phe Asp Asn Leu Tyr Xaa Trp Asp Gln Asn Ser
1 5 10

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 12 amino acids
- (B) TYPE: amino acid

(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Region
(B) LOCATION: one-of(6)
(D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

| | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Phe | Asp | Asn | Leu | Xaa | Tyr | Trp | Asp | Gln | Asn | Ser |
| 1 | | | | 5 | | | | | 10 | | |

(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 12 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Region
(B) LOCATION: one-of(6,7)
(D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

| | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Phe | Asp | Asn | Leu | Xaa | Xaa | Trp | Asp | Gln | Asn | Ser |
| 1 | | | | 5 | | | | | 10 | | |

(2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Region
(B) LOCATION: one-of(12)
(D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

Pro Ala Phe Ser Pro Ala Phe Asp Asn Leu Tyr Xaa Trp Asp Gln Asn

(2) INFORMATION FOR SEQ ID NO:9:

- ```
(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 21 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:
 (A) NAME/KEY: Region
 (B) LOCATION: one-of(11)
 (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."
```

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

```

Pro Ala Phe Ser Pro Ala Phe Asp Asn Leu Xaa Tyr Trp Asp Gln Asn
1 5 10 15

Ser Ser Glu Gln Gly
 20

```

## (2) INFORMATION FOR SEQ ID NO:10:

- ```
(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 21 amino acids
    (B) TYPE: amino acid
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:
    (A) NAME/KEY: Region
    (B) LOCATION: one-of(11,12)
    (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."
```

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

Pro Ala Phe Ser Pro Ala Phe Asp Asn Leu Xaa Xaa Trp Asp Gln Asn
1 5 10 15

Ser Ser Glu Gln Gly
20

(2) INFORMATION FOR SEQ ID NO:11:

- (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Ala | Asp | Asn | Leu | Tyr | Xaa | Trp | Asp | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| | | | | | | | | | | | | | | | |
| Ser | Ser | Glu | Gln | Gly | | | | | | | | | | | |
| | | | | | 20 | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:12:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(11)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Ala | Asp | Asn | Leu | Xaa | Tyr | Trp | Asp | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| | | | | | | | | | | | | | | | |
| Ser | Ser | Glu | Gln | Gly | | | | | | | | | | | |
| | | | | | 20 | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(11,12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Ala | Asp | Asn | Leu | Xaa | Xaa | Trp | Asp | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| | | | | | | | | | | | | | | | |
| Ser | Ser | Glu | Gln | Gly | | | | | | | | | | | |
| | | | | | 20 | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:14:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Ala | Asn | Leu | Tyr | Xaa | Trp | Asp | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| | | | | | | | | | | | | | | | |
| Ser | Ser | Glu | Gln | Gly | | | | | | | | | | | |
| | | | | | 20 | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:15:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(11)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Ala | Asn | Leu | Xaa | Tyr | Trp | Asp | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Ser Ser Glu Gln Gly
20

(2) INFORMATION FOR SEQ ID NO:16:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 21 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

- (ix) FEATURE:
 (A) NAME/KEY: Region
 (B) LOCATION: one-of(11,12)
 (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

| | | | | | | | | | | | | | | | |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Ala | Asn | Leu | Xaa | Xaa | Trp | Asp | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser Ser Glu Gln Gly | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:17:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 21 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

- (ix) FEATURE:
 (A) NAME/KEY: Region
 (B) LOCATION: one-of(12)
 (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

| | | | | | | | | | | | | | | | |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Ser | Asn | Leu | Tyr | Xaa | Trp | Asp | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser Ser Glu Gln Gly | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:18:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 21 amino acids

- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(11)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

| | | | | | | | | | | | | | | | |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Ser | Asn | Leu | Xaa | Tyr | Trp | Asp | Gln | Asn |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Ser Ser Glu Gln Gly | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:19:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

| | | | | | | | | | | | | | | | |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Ser | Asn | Leu | Xaa | Xaa | Trp | Asp | Gln | Asn |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Ser Ser Glu Gln Gly | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:20:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region

- (B) LOCATION: one-of(12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

```

Pro Ala Phe Ser Pro Ala Phe Asp Asn Ala Tyr Xaa Trp Asp Gln Asn
1           5           10           15

Ser Ser Glu Gln Gly
           20

```

(2) INFORMATION FOR SEQ ID NO:21:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (ix) FEATURE:
 - (A) NAME/KEY: Region
 - (B) LOCATION: one-of(11)
 - (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

```

Pro Ala Phe Ser Pro Ala Phe Asp Asn Ala Xaa Tyr Trp Asp Gln Asn
1           5           10           15

Ser Ser Glu Gln Gly
           20

```

(2) INFORMATION FOR SEQ ID NO:22:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (ix) FEATURE:
 - (A) NAME/KEY: Region
 - (B) LOCATION: one-of(11,12)
 - (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

```

Pro Ala Phe Ser Pro Ala Phe Asp Asn Ala Xaa Xaa Trp Asp Gln Asn
1           5           10           15

```

Ser Ser Glu Gln Gly
20

(2) INFORMATION FOR SEQ ID NO:23:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 21 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

- (ix) FEATURE:
 (A) NAME/KEY: Region
 (B) LOCATION: one-of(12)
 (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

| | | | | | | | | | | | | | | | |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Asp | Asn | Leu | Ala | Xaa | Trp | Asp | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser Ser Glu Gln Gly | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:24:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 21 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

- (ix) FEATURE:
 (A) NAME/KEY: Region
 (B) LOCATION: one-of(12)
 (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

| | | | | | | | | | | | | | | | |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Asp | Asn | Leu | Phe | Xaa | Trp | Asp | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser Ser Glu Gln Gly | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:25:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 21 amino acids
 (B) TYPE: amino acid

(C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Region
 (B) LOCATION: one-of(12)
 (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Asp | Asn | Leu | Tyr | Xaa | Phe | Asp | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| | | | | | | | | | | | | | | | |
| Ser | Ser | Glu | Gln | Gly | | | | | | | | | | | |
| | | | | | 20 | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:26:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Region
 (B) LOCATION: one-of(11)
 (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Asp | Asn | Leu | Xaa | Tyr | Phe | Asp | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| | | | | | | | | | | | | | | | |
| Ser | Ser | Glu | Gln | Gly | | | | | | | | | | | |
| | | | | | 20 | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:27:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Region
 (B) LOCATION: one-of(11,12)

(D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

| | | | | | | | | | | | | | | | |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Asp | Asn | Leu | Xaa | Xaa | Phe | Asp | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser Ser Glu Gln Gly | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:28:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

| | | | | | | | | | | | | | | | |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Asp | Asn | Leu | Tyr | Xaa | Trp | Ala | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser Ser Glu Gln Gly | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:29:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(11)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

| | | | | | | | | | | | | | | | |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Asp | Asn | Leu | Xaa | Tyr | Trp | Ala | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser Ser Glu Gln Gly | | | | | | | | | | | | | | | |

20

(2) INFORMATION FOR SEQ ID NO:30:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(11,12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Asp | Asn | Leu | Xaa | Xaa | Trp | Ala | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| | | | | | | | | | | | | | | | |
| Ser | Ser | Glu | Gln | Gly | | | | | | | | | | | |
| | | | | | 20 | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:31:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Asp | Asn | Leu | Tyr | Xaa | Trp | Asp | Ala | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| | | | | | | | | | | | | | | | |
| Ser | Ser | Glu | Gln | Gly | | | | | | | | | | | |
| | | | | | 20 | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:32:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Region

(B) LOCATION: one-of(11)

(D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Asp | Asn | Leu | Xaa | Tyr | Trp | Asp | Ala | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | |
|-----|-----|-----|-----|-----|
| Ser | Ser | Glu | Gln | Gly |
| | | | | 20 |

(2) INFORMATION FOR SEQ ID NO:33:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Region

(B) LOCATION: one-of(11,12)

(D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Asp | Asn | Leu | Xaa | Xaa | Trp | Asp | Ala | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | |
|-----|-----|-----|-----|-----|
| Ser | Ser | Glu | Gln | Gly |
| | | | | 20 |

(2) INFORMATION FOR SEQ ID NO:34:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Region

(B) LOCATION: one-of(12)

(D) OTHER INFORMATION: note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

```

Pro Ala Phe Ser Pro Ala Phe Asp Asn Leu Tyr Xaa Trp Asp Asn Asn
1           5           10           15

Ser Ser Glu Gln Gly
           20

```

(2) INFORMATION FOR SEQ ID NO:35:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(11)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:

```

Pro Ala Phe Ser Pro Ala Phe Asp Asn Leu Xaa Tyr Trp Asp Asn Asn
1           5           10           15

Ser Ser Glu Gln Gly
           20

```

(2) INFORMATION FOR SEQ ID NO:36:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(11,12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

```

Pro Ala Phe Ser Pro Ala Phe Asp Asn Leu Xaa Xaa Trp Asp Asn Asn
1           5           10           15

Ser Ser Glu Gln Gly
           20

```

(2) INFORMATION FOR SEQ ID NO:37:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

```

Pro Ala Phe Ser Pro Ala Phe Asp Asn Leu Tyr Xaa Asp Asp Gln Asn
1           5           10           15

Ser Ser Glu Gln Gly
                20

```

(2) INFORMATION FOR SEQ ID NO:38:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(11)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

```

Pro Ala Phe Ser Pro Ala Phe Asp Asn Leu Xaa Tyr Trp Asp Asp Asn
1           5           10           15

Ser Ser Glu Gln Gly
                20

```

(2) INFORMATION FOR SEQ ID NO:39:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(11,12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Asp | Asn | Leu | Xaa | Xaa | Trp | Asp | Asp | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| | | | | | | | | | | | | | | | |
| Ser | Ser | Glu | Gln | Gly | | | | | | | | | | | |
| | | | | | 20 | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:40:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Asp | Asn | Leu | Ala | Xaa | Trp | Asp | Gln | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| | | | | | | | | | | | | | | | |
| Ser | Ser | Glu | Gln | Gly | | | | | | | | | | | |
| | | | | | 20 | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:41:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(11)
- (D) OTHER INFORMATION: note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:

```

Pro Ala Phe Ser Pro Ala Phe Asp Asn Leu Xaa Tyr Trp Asp Gln Ala
1           5           10           15

Ser Ser Glu Gln Gly
                20

```

(2) INFORMATION FOR SEQ ID NO:42:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(11,12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:

```

Pro Ala Phe Ser Pro Ala Phe Asp Asn Leu Xaa Xaa Trp Asp Gln Ala
1           5           10           15

Ser Ser Glu Gln Gly
                20

```

(2) INFORMATION FOR SEQ ID NO:43:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:

```

Pro Ala Phe Ser Pro Ala Phe Asp Asn Leu Tyr Xaa Trp Asp Gln Asn
1           5           10           15

Ala Ser Glu Gln Gly
                20

```

(2) INFORMATION FOR SEQ ID NO:44:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(11)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:

| | | | | | | | | | | | | | | | |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Asp | Asn | Leu | Xaa | Tyr | Trp | Asp | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala Ser Glu Gln Gly | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:45:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(11,12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:

| | | | | | | | | | | | | | | | |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Asp | Asn | Leu | Xaa | Xaa | Trp | Asp | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala Ser Glu Gln Gly | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:46:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(11)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

| | | | | | | | | | | | | | | | |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Phe | Gly | Gly | Ala | Val | Glu | Asn | Pro | Glu | Xaa | Leu | Ala | Pro | Arg | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gly Thr Ala Ser Gln | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:47:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(11)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:

| | | | | | | | | | | | | | | | |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Gly | Thr | Pro | Thr | Ala | Glu | Asn | Pro | Glu | Xaa | Leu | Gly | Leu | Asp | Val |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Pro Val | | | | | | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:48:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:

| | | | | | | | | | | | | | | | |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Asp | Asn | Leu | Tyr | Tyr | Trp | Asp | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser Ser Glu Gln Gly | | | | | | | | | | | | | | | |

20

(2) INFORMATION FOR SEQ ID NO:49:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(11)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:

| | | | | | | | | | | | | | | | |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Pro | Leu | Ala | Cys | Ser | Pro | Gln | Pro | Glu | Xaa | Val | Asn | Gln | Pro | Glu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val Arg Pro Gln Ser | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:50:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(11)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:

| | | | | | | | | | | | | | | | |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Pro | His | Asp | Leu | Ser | Pro | Leu | Gln | Arg | Xaa | Ser | Glu | Asp | Pro | Thr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu Pro Leu | | | | | | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:51:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Region

(B) LOCATION: one-of(11)

(D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Leu | Pro | Leu | Pro | Pro | Glu | Thr | Asp | Gly | Xaa | Val | Ala | Pro | Leu | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | |
|-----|-----|-----|-----|
| Cys | Ser | Pro | Gln |
| | | | 20 |

(2) INFORMATION FOR SEQ ID NO:52:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 4 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Region

(B) LOCATION: one-of(4)

(D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:

| | | | |
|-----|-----|-----|-----|
| Asn | Xaa | Xaa | Xaa |
| 1 | | | |

(2) INFORMATION FOR SEQ ID NO:53:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Region

(B) LOCATION: one-of(7)

(D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:

Leu Leu Ser Asn Pro Thr Xaa Ser Val Met Arg
 1 5 10

(2) INFORMATION FOR SEQ ID NO:54:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 13 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

- (ix) FEATURE:
 - (A) NAME/KEY: Region
 - (B) LOCATION: one-of(7)
 - (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:

Ala Phe Asp Asn Pro Asp Xaa Trp His Phe Arg Leu Phe
 1 5 10

(2) INFORMATION FOR SEQ ID NO:55:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 10 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

- (ix) FEATURE:
 - (A) NAME/KEY: Region
 - (B) LOCATION: one-of(6)
 - (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:

Ile Glu Asn Pro Gln Xaa Phe Ser Asp Ala
 1 5 10

(2) INFORMATION FOR SEQ ID NO:56:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 12 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(1) SEQUENCE CHARACTERISTICS

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(11,12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:59:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Ser | Trp | Asp | Gln | Asn | Gln | Leu | Phe | Ser | Xaa | Xaa | Ser | Phe | Ala | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| | | | | | | | | | | | | | | | |
| Glu | Gly | Pro | Ala | Asn | | | | | | | | | | | |
| | | | | | 20 | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:60:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(4,18)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Ser | Trp | Xaa | Ser | Gln | Asn | Gln | Leu | Phe | Asp | Ser | Phe | Ala | Pro | Glu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| | | | | | | | | | | | | | | | |
| Gly | Xaa | Pro | Ala | Asn | | | | | | | | | | | |
| | | | | | 20 | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:61:

(i) SEQUENCE CHARACTERISTICS

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:61:

```

Pro Ala Phe Ser Pro Ala Phe Asp Ala Leu Tyr Xaa Trp Asp Gln Asn
1           5           10           15

Ser Ser Glu Gln Gly
                20

```

(2) INFORMATION FOR SEQ ID NO:62:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:62:

```

Pro Ala Phe Ser Pro Ala Phe Asp Gln Leu Tyr Xaa Trp Asp Gln Asn
1           5           10           15

Ser Ser Glu Gln Gly
                20

```

(2) INFORMATION FOR SEQ ID NO:63:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:63:

```

Pro Ala Phe Ser Pro Ala Phe Asp Asp Leu Tyr Xaa Trp Asp Gln Asn

```

(2) INFORMATION FOR SEQ ID NO:64:

- ```
(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 22 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:
 (A) NAME/KEY: Region
 (B) LOCATION: one-of(13)
 (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."
```

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:64:

```

Pro Ala Phe Ser Pro Ala Phe Asp Asn Leu Ala Tyr Xaa Trp Asp Gln
1 5 10 15

Asn Ser Ser Glu Gln Gly
 20

```

(2) INFORMATION FOR SEQ ID NO:65:

- ```
(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 22 amino acids
    (B) TYPE: amino acid
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:
    (A) NAME/KEY: Region
    (B) LOCATION: one-of(13)
    (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."
```

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:65:

Pro Ala Phe Ser Pro Ala Phe Asp Asn Leu Phe Tyr Xaa Trp Asp Gln
1 5 10 15
Asn Ser Ser Glu Gln Gly
20

(2) INFORMATION FOR SEQ ID NO:66:

- (1) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:66:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Asp | Asp | Leu | Tyr | Xaa | Ala | Asp | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| | | | | | | | | | | | | | | | |
| Ser | Ser | Glu | Gln | Gly | | | | | | | | | | | |
| | | | | | 20 | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:67:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:67:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Asp | Asn | Leu | Tyr | Xaa | Trp | Asp | Asp | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| | | | | | | | | | | | | | | | |
| Ser | Ser | Glu | Gln | Gly | | | | | | | | | | | |
| | | | | | 20 | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:68:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:68:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Asp | Asn | Leu | Tyr | Xaa | Trp | Asp | Gln | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| | | | | | | | | | | | | | | | |
| Ser | Ser | Glu | Gln | Gly | | | | | | | | | | | |
| | | | | | 20 | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:69:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(11,12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphoserine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Asp | Asn | Leu | Xaa | Xaa | Trp | Asp | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| | | | | | | | | | | | | | | | |
| Ser | Ser | Glu | Gln | Gly | | | | | | | | | | | |
| | | | | | 20 | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:70:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:70:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Asp | Asn | Leu | Glu | Glu | Trp | Asp | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| | | | | | | | | | | | | | | | |
| Ser | Ser | Glu | Gln | Gly | | | | | | | | | | | |
| | | | | | 20 | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:71:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:71:

```

Pro Ala Phe Ser Pro Ala Phe Asp Asn Leu Phe Phe Trp Asp Gln Asn
1              5              10              15

Ser Ser Glu Gln Gly
                20

```

(2) INFORMATION FOR SEQ ID NO:72:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(11,12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:

```

Pro Ala Phe Ser Pro Ala Phe Asp Gln Leu Xaa Xaa Trp Asp Gln Asn
1              5              10              15

Ser Ser Glu Gln Gly
                20

```

(2) INFORMATION FOR SEQ ID NO:73:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(11,12)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Phe | Ser | Pro | Ala | Phe | Asp | Asp | Leu | Xaa | Xaa | Trp | Asp | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| | | | | | | | | | | | | | | | |
| Ser | Ser | Glu | Gln | Gly | | | | | | | | | | | |
| | | | | | 20 | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:74:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 6 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Region
- (B) LOCATION: one-of(5)
- (D) OTHER INFORMATION: /note= "Xaa is phosphotyrosine."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:

| | | | | | |
|-----|-----|-----|-----|-----|-----|
| Asp | Asn | Leu | Tyr | Xaa | Trp |
| 1 | | | | 5 | |